



Alignment between business process governance and IT governance

Rahimi, Fatemeh; Møller, Charles; Hvam, Lars

Published in:
Proceedings - Twentieth Americas Conference on Information Systems

Publication date:
2014

Document Version
Publisher's PDF, also known as Version of record

[Link back to DTU Orbit](#)

Citation (APA):
Rahimi, F., Møller, C., & Hvam, L. (2014). Alignment between business process governance and IT governance. In *Proceedings - Twentieth Americas Conference on Information Systems*

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Alignment Between Business Process Governance and IT Governance

Completed Research Paper

Fatemeh Rahimi

Technical University of Denmark
fara@dtu.dk

Charles Møller

Aalborg University
charles@business.aau.dk

Lars Hvam

Technical University of Denmark
lahv@dtu.dk

Abstract

The importance of business processes and the increasing centrality of IT to an organization's performance have called for a specific focus on business process governance and IT governance in contemporary enterprises. Despite the wide scope of business process management, which covers both business and IT domains, and the profound impact of IT on process innovations, the association between business process governance and IT governance remains under-explored. Analyzing the constituting elements of the two governance concepts, we propose the necessity of alignment between business process and IT governance frameworks to enable business-IT strategic alignment, efficient process and IT requirements specification, and IT-enabled business value realization. We examine the actuality of this alignment in practice through a case study conducted in a relatively mature multinational corporation. The findings indicate the presence of mutual adjustment between business process and IT management functions to support strategic and operational process and IT decision making.

Keywords

IT governance, business process governance, ITG, BPG, case study

Introduction

The importance of business processes as a main component of organizational infrastructure has given rise to Business Process Management (BPM) as a management technique that ensures long-term business success (Scheer and Brabänder, 2010). This has been accompanied by the growing pervasiveness of IT-enabled business processes in contemporary organizations (Tiwana and Konsynski, 2010). Given the impact of business processes and IT on organizational success (Weill and Ross, 2004), overlaying some form of governance is essential to optimize and sustain improvements to operational performance (Spanyi, 2010), support business objectives, and mitigate risks associated with IT implementation (Bernroider, 2008). Business process governance (BPG) is one of the six core elements critical to build BPM maturity (Rosemann and Brocke, 2010). This calls for a specific focus on BPG in BPM research (e.g. Markus and Jacobson, 2010; Scheer and Brabänder, 2010; Spanyi, 2010). The increasing centrality of IT to business performance (Wilkin and Chenhall, 2010) and rapid transformation of IT organizations into true business partners (Spremić, 2009) have also made IT governance (ITG) high in the agenda of IT research (e.g. De Haes and Grembergen 2009; Peterson, 2004; Weill and Ross, 2004).

As BPM covers both business and IT domains (Khusidman, 2010), IT involvement in BPM activities and business inclusion in IT decision making have been the topic of separate studies. Tarafdar and Gordon (2007) have highlighted the importance of IT participation in and potential leadership of process

innovations. IT competences are suggested to affect the conception, development, and implementation of process innovations (Tarafdar and Gordon, 2007). Likewise, Spanyi (2010) suggests inclusion and involvement of IT subject matter experts in all major process improvement efforts, in process management teams, and in organizations' Center of Excellence for process management. Several studies (e.g. Hammer, 2004) suggest the CIO as the catalyst for business process management as they have a very close relationship with processes. More and more organizations give their CIO an added role of the Chief Process Officer (Doebeli et al., 2011). A study by Accenture (2013) shows that in one third of the surveyed companies the BPM team report to their IT leadership. On the other hand, there are studies that emphasize the importance of process roles in IT decision making. Process Owners are suggested to have an understanding of the business process architecture and the IT systems used in their business area (Scheer and Brabänder, 2010). A study by Weill and Ross (2004) shows the active participation of business roles, amongst all Business Process Owners, in IT decision making. Business and IT domains are also drawn together under a common framework in enterprise architectures as a means for the evolution of the IT system in response to the constantly changing needs of the business environment (TOGAF 9.1). Although these studies suggest interactions between IT and business communities, the research to date has tended to focus on BPG and ITG separately, leaving the relationship between BPG and ITG and the mechanisms that foster collaboration between BPM and IT management under-explored. Similarly, while the architecture governance frameworks may highlight the business responsibilities associated with architecture governance, they overlook the responsibility of process roles in development, implementation, and operation of enterprise architectures.

This paper proposes that alignment between BPG and ITG is needed, and presents evidence for the actuality of such alignment in the real world. We argue for the necessity for the alignment by building linkages between the BPG and ITG literature to identify the overlapping decision domains and responsibilities within BPG and ITG frameworks. The paper empirically investigates the application of this alignment by analyzing the case of an enterprise with relatively mature BPG and ITG structures and processes.

The remainder of the paper is organized as follows: first we provide a brief description of BPG and ITG concepts and their constituting elements. This is followed by our arguments for the overlapping accountabilities within the two governance arrangements, identified based on a comparative literature study. Our empirical study follows and we conclude with a discussion of findings, limitations, and potential extension of the research.

Theoretical Background

Governance is the organization of management. It refers to the set of goals, principles, organization charts that define who can make what decisions, and the policies and rules that define or constrain what managers can do (Harmon, 2008). Corporate governance refers to the processes by which organizations are directed and managed. It influences how the objectives of the company are set and achieved, how risk is monitored and assessed, and how performance is optimized (ASX Corporate Governance Council, 2003). ITG is a subset discipline of corporate governance focused on information and IT assets (Weill and Ross, 2004). ITG draws on corporate governance principles to manage and use IT to achieve corporate performance goals (Sprenić, 2009). BPG is suggested to encompass the same aspects as the more traditional corporate and IT governance, but with a focus on process capital as an intangible asset (Doebeli et al., 2011). Similar to IT investments, BPM initiatives are not decided in isolation but, rather, as an integral part of overall business strategy (Santana et al., 2011). Effective BPG has to reinforce the strategic alignment among process management activities and business priorities (Jesus et al., 2009); therefore BPM practices are suggested to be aligned and integrated with the corporate governance and management systems (Doebeli et al., 2011). Based on these studies we assume BPG and ITG two distinct governance concepts, both a subset of the corporate governance of any given organization.

Business Process Governance

BPM is a structured approach that employs methods, policies, metrics, management practices, and software tools to coordinate and continuously optimize an organization's activities and processes to enable efficient and effective delivery of business objectives (Davis and Brabänder, 2007). However, BPM itself is a process that must be implemented and executed inside organizations (Scheer and Brabänder,

2010). BPG holds the accountability for the management of the BPM process (Kirchmer, 2010). BPG represents the overarching guidelines for the administration and application of BPM and ensures the proper design, implementation, execution, and control of processes (Kirchmer, 2011). BPG is deployed by establishing relevant and transparent process roles and responsibilities, process management decision-making, and reward processes to guide desirable process actions (Doebeli et al., 2011; Scheer and Brabänder, 2010). Process metrics and performance linkage, process-related standards, and process compliance are other capabilities essential for the adoption of BPG (de Bruin, 2009).

A considerable body of literature (e.g. Burlton et al., 2010; de Bruin, 2009; Kirchmer, 2011; Scheer and Brabänder, 2010) has focused on the structural governance mechanisms accountable for the management of business processes. BPM Sponsor, BPM Steering Committee, Process Council, and Process Owner are among the most frequently mentioned permanent process roles and committees in BPG. The study by Accenture (2013) shows that the largest fraction of the surveyed companies rely on Process Owners as the leading force behind their BPM efforts. BPG organization is usually complemented with a BPM Center of Excellence or Process Office with the responsibility for facilitating BPM activities (Scheer and Brabänder, 2010).

IT Governance

ITG refers to the framework for decision rights and accountabilities to encourage desirable behavior in the use of IT (Weill and Ross, 2004) and to ensure the enterprise's IT sustains and extends the organization's strategies (ITGI, 2007). Van Grembergen (2002) considers ITG the responsibility of the board, executive management and IT management (Van Grembergen, 2002). Effective ITG provides direction to strategic IT decision making, ensures IT delivers its promised benefits against strategy, mitigates risks associated with IT implementations, appropriately manages vital IT resources, and tracks and monitors IT performance (COBIT 4.1, 2007). The desirable behavior in the use of IT is encouraged by deploying a mixture of structure, decision-making processes, and relational mechanisms to enable horizontal, or liaison, contacts between business and IT management (Peterson, 2004).

Considering ITG mechanisms as a mixture of structural, process, and relational mechanisms, De Haes and Van Grembergen (2009) suggest the minimum baseline for deploying ITG as IT steering committee, CIO on executive committee, portfolio management, IT budget control and reporting, IT strategy committee at level of board of directors, IT leadership, strategic information system planning, IT project steering committee, CIO reporting to CEO or COO, and project governance methodologies. Peterson (2004) recommends a comparable set of capabilities for ITG. Looking at the elements of ITG in a more structured way, Weill and Ross (2004) consider ITG responsible for allocating five key IT decisions: IT principles, IT architecture, IT infrastructure strategies, business application needs, and IT investment and prioritization. Each of these decision domains can be addressed at the corporate level, at the business-unit level, at the corporate or business-unit IT functions, or some combination of the three (Weill and Ross, 2004). In a study of 256 organizations in 23 countries, they show that IT architecture and IT infrastructure decisions are mainly taken by IT managers, whereas the other three decisions domains are mostly taken either by business managers or in a duopoly between IT and business parties involved in IT management. More interestingly, the study shows that the input right for all five decision domains predominantly follows the federal governance framework where business representatives from both corporate and business unit levels are involved (Weill and Ross, 2004).

Research Framework

The focus of BPM ranges from purely organizational to more technical perspectives (Niehaves et al., 2012). As most business processes are supported by IT (Harmon, 2010), some studies choose to define BPM as the ability of an organization to integrate, build and reconfigure the most often IT-enabled business processes of an organization (e.g. Niehaves et al., 2012). Indeed, IT projects undertaken to develop the required capabilities for the execution of redesigned processes fall within the implementation layer of the BPTrends Associates Pyramid (Burlton, 2010). Often, implementation of IT systems and business applications such as ERP, CRM, and SRM systems has been the trigger for launching BPM initiatives (Scheer and Brabänder, 2010). The importance of integration between business and IT domains is also emphasized in ITG where IT decision making responsibilities are allocated to both business and IT managers (Weill and Ross, 2004).

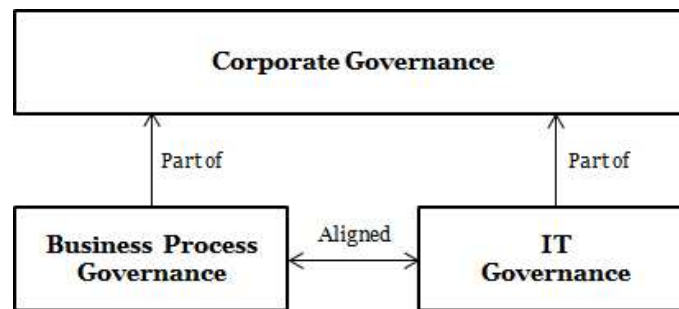


Figure 1: Relation between BPG and ITG

Dividing the responsibility for the management of business processes and IT between BPM and IT communities reflects a functional grouping as defined by Mintzberg (1983). Although BPM and IT management are controlled by overall business strategy, we expect that the important interdependencies between business processes and IT stimulate coordination mechanisms in the form of mutual adjustments between BPM and IT management functions. Nevertheless our literature search for conjoined BPG and ITG topics did not lead to any relevant papers. Therefore, we searched for BPG and ITG separately to understand the core elements of each concept. As illustrated in Table 1, a structured search for BPG and ITG decision domains in Web of Knowledge and Scopus showed a relatively high volume of studies on ITG, whereas the number of papers on BPG was rather limited. However we were able to find more papers on BPG in the Handbook on Business Process Management (Brocke and Rosemann, 2010) and the papers published by BPTrends, and then later by citation trailing the relevant papers. In total, we considered 52 papers for the detailed study.

Theme	Keywords	Scopus	Web of Science	Refined based on title, and abstract
		Refined based on the subject area	Refined based on the subject area	
BPG	Business process governance; Process governance; Governance of business processes; Governance of processes; Business process management governance; Governance of business process management; BPG; BPMG; BPM governance	52	22	13
ITG	IT governance; IS governance; Information systems governance; Information technology governance	224	126	40

Table 1: Number of papers on each topic found in the structured literature search

The comparative analysis of the studied papers revealed an overlap in the accountabilities specified within the two governance frameworks, as outlined in Table 2. Given these findings and considering BPG and ITG two distinct governance arrangements, we argue for the necessity of alignment between BPG and ITG when it comes to responsibility for business-IT strategic alignment, process and IT requirements specification, and IT-enabled business value realization. We will develop and elaborate on these arguments in the next three subsections.

Business-IT Strategic Alignment

The inter-relationship between business and IT strategies, organizational structures, and processes was first described by Henderson and Venkatraman (1993). Strategic alignment involves ensuring the linkage between business and IT plans; defining, maintaining and validating the IT value proposition; and aligning IT operations with overall business operations (COBIT 4.1, 2007).

	IT Governance	Business Process Governance
Business- IT strategic alignment	Business roles specified within ITG communicate the business strategy and are involved in IT principles, IT architecture, and IT investment decision making.	Process roles specified within BPG ensure IT investments support business strategy.
Process and IT requirements specification	Business roles specified within ITG decide about business application needs.	Process roles specified within BPG are responsible for providing the business process blueprint for IT implementations.
IT-enabled business value realization	Business roles specified within ITG are responsible for benefit management and value delivery from IT investments.	Process roles specified within BPG are responsible for business process performance and deriving the payoffs from IT investments from business process improvements.

Table 2: Shared accountabilities between BPG and ITG frameworks

Weill and Ross (2004) suggest business involvement in all IT decision-making domains, including IT principles, IT architecture, and IT investment and prioritization. Likewise, Rau (2004) enumerates some of the responsibilities of non-IT roles within ITG as establishing and communicating strategic direction to IT leaders; determining the new development projects and enhancements to be worked on by IT resources; managing, monitoring, and adjusting their pipeline of IT projects; and negotiations and follow up on the funds. This clearly overlaps with Spanyi's (2010) description of an essential role of BPG: as any broad-based improvement effort relies extensively on IT, BPG is tasked to ensure that IT investments support the company's business strategy. Indeed, according to the three-tier architecture of Business Process Excellence, the general business process structure and strategy and the underlying application system architecture are decided at the strategy layer of BPM (Tučková and Tuček, 2011). Therefore, there is an overlap in the accountabilities specified within ITG and BPG for IT strategic decision making that suggests the need for alignment between the two governance frameworks.

Business Process and IT Requirements Specification

IT strategy is argued to be embedded in business strategy, feeding from and into business processes (Galliers 1991). Several studies suggest BPM responsible for providing the demand analysis and the business process blueprint for IT implementations (e.g. Hongjun and Nan, 2011; Tučková and Tuček, 2011). According to the three-tier architecture of Business Process Excellence, the strategy sets the direction for process specification, which is then used as the guideline for the implementation, configuration, and customization of information handling systems at the execution layer (Tučková and Tuček, 2011). Given these descriptions, providing specification for the implementation of IT systems falls within the BPG framework. On the other hand, Weill and Ross (2004) suggest business application needs, i.e. specifying the business needs for purchased or internally developed IT applications, as one of the main decision domains within ITG. Their study identifies the decision making for business application needs as the sole responsibility of non-IT roles within ITG in the majority of the surveyed companies.

Comparing the responsibilities specified within BPG for blueprint preparation with those within ITG for application requirements decision making reveals an overlapping accountability in the two governance frameworks, suggesting alignment between BPG and ITG for application development and configuration decision making.

IT-enabled Business Value Realization

IT fundamentally enables the performance of business processes in creating value (Spanyi et al., 2010). IT competencies, embedded in organizational processes and business routines, are suggested to positively influence organizational performance (Tarafdar and Gordon, 2007). Yet, identifying how IT provides value is difficult as the benefits become absorbed into business processes (Wilkin and Chenhall, 2010). IT benefits management refers to the process of organizing and managing such that the potential benefits arising from the use of IT are actually realized (Peppard et al., 2007). Delivering value amongst others requires considering impact of IT activities on business processes and resources, clarifying roles and responsibilities for delivering business benefits, and defining and monitoring performance metrics (Wilkin and Chenhall, 2010).

Value delivery is among the main facets of ITG (COBIT 4.1, 2007). Value delivery deals with executing the value proposition throughout the delivery cycle, ensuring that IT delivers its promised benefits against

strategy, focusing on optimizing costs, and verifying the inherent value of IT (COBIT 4.1, 2007). De Haes and Van Grembergen (2009) and Peterson (2004) suggest benefit management as one of the ITG process mechanisms. More specifically Rau (2004) considers ensuring realization of IT-dependent business goals and exceptional IT performance among the responsibilities of non-IT roles engaged in IT management. On the other hand, Spanyi (2010) suggests an essential role of BPG to assure that the payoff from IT investments is directly derived from the specific improvements in business process performance. According to BPG, monitoring and managing business process performance typically is the responsibility of Business Process Owners (Scheer and Brabänder, 2010). As value delivery needs to be monitored at the level of those who instigated changes (Wilkin and Chenhall, 2010) and as benefits from IT investments mainly emerge from changes and innovations to ways of working in the organization, only business managers and users can be held accountable for the realization of business benefits enabled by IT investments (Peppard et al., 2007). These arguments make process roles responsible for making effective use of the new systems and technology.

Again a comparison between the accountabilities defined in the two governance concepts indicates an overlap in the responsibility for IT benefit management, suggesting coordination between business process and IT management functions for IT-enabled business value realization.

Research Methodology

The findings from the comparative literature study on ITG and BPG suggest an overlap in their decision-making responsibilities and, therefore, the necessity for alignment between the two governance concepts regarding the accountability for business-IT strategic alignment, process and IT requirements specification, and IT-enabled business value realization. To examine these findings, a single in-depth case study was conducted. The rather exploratory nature of the study makes case study a suitable methodology (Eisenhardt, 1989; Yin, 1994) to provide a holistic understanding of the potential associations between the two governance arrangements and any mechanisms that foster the interaction between business process and IT management structures. For the case study, we chose an enterprise with a relatively high maturity in terms of both ITG and BPG. The corporation has been actively managing its business processes for more than 15 years, relying on a mature BPG setup for managing the BPM activities. We were also aware of the presence of a formalized corporate-wide ITG for the last seven years. Therefore, the case represents an information-chosen archetypical case, likely to illustrate any potential interplay between the two governance arrangements.

The case study investigated the corporate BPG and ITG arrangements and mechanisms, and sought any potential interactions between business process and IT management organizations. In total we conducted nine semi-structured interviews with both process and IT representatives including the Process Owner, Process Manager, Business Relation Manager, and Delivery Area Manager for Operations; Business Relation Managers for Sales; and the two corporate BPM Framework Drivers. As responsibility for business process and IT management are allocated to the centralized functions in Gamma, these roles were all located at the corporate level in the headquarters. The interviews were conducted by the first author in the period between September 2012 and November 2013. The duration of each interview varied from one to two hours. In addition to the interviews, the authors had access to some archival sources describing the process roles and responsibilities specified within BPG, and the ITG decision-making framework. The triangulation of data sources is expected to have compensated for the potential biases and enhanced the credibility of the study (Tracy, 2010). The documents and the interviews' transcriptions were open coded based on the BPG and ITG categories, and later based on the type of interactions between process and IT management organizations, and the mechanisms that facilitated the contacts. The findings were then matched against the propositions derived from the literature survey. The next subsections present a brief description of the case and a summary of the findings.

Empirical study

Gamma is a leading multinational corporation represented with 80 companies in more than 55 countries. The corporate structure reflects a specialized resource configuration where the local business units are categorized into sales offices, production plants, and distribution centers. The corporate organizational

structure follows a functional structure where Sales and Marketing, Operations, Business Development, Finance, and People and Strategy constitute the main functional domains.

In 1995, Gamma replaced its traditional values based on local engagement and responsibility with higher productivity and globalization. This was the start for a transformation toward a process-oriented enterprise, driven by the EFQM Business Excellence model. In 2007 Gamma also started establishing an IT governance comprising business and IT representatives from the corporate, regional, and local levels. This was to formalize a more centralized approach to IT decision making that has enabled corporate-wide business and technical consolidation.

In the next subsections a brief description of the two governance arrangements is presented, followed by the observed mechanisms that integrate business process and IT management structures together. Throughout this section the term Process Organization will refer to the governing roles and responsibilities for business process management, whereas the term IS Organization reflects the enterprise's setup of structural and process mechanisms for IT decision making. Since the interviewees mostly originated from Operations, the findings might be more in line with the governance setups in this functional domain, which has the highest level of BPM maturity in Gamma.

Process Organization

Business process management is an integral part of management in Gamma, where the functional managers visibly take the process roles and assume responsibility for the management of the processes within their functional domain. As presented in Figure 2, BPM in each functional domain is handled by four main process roles and committees that are Process Owner, Process Manager, Process Consultant, and Process Network.

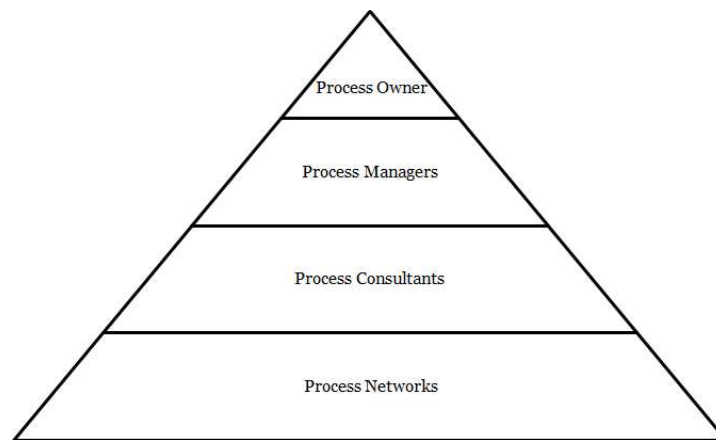


Figure 2: Process organization in Gamma

In Gamma, the vice presidents for the functional domains or their directors take the role of Process Owners. Consistent with Burlton's (2010) description of a process executive, a Process Owner in Gamma has the responsibility for defining the BPM strategy, driving the execution of BPM initiatives within the functional area, and monitoring the performance of the local business units. A Process Owner heads a group of Process Managers each accountable for a specific process area. A Process Manager, amongst all, is responsible for ensuring that business processes meet the business requirements both at the corporate and local levels. A Process Manager, together with few Process Consultants, drives one or more Process Networks consisting of representatives from regions or local business units. The representatives in a Process Network are responsible to communicate the process requirements of their respective region or business unit and assist the Process Manager and Process Consultants with design, development, and improvement of business processes. Realizing the targets set by the process organization and ensuring the positive contribution of local representatives in the Process Networks are among the responsibilities of regional or local business unit's managers. Playing the role of BPM Center of Excellence (Scheer and Brabänder, 2010), a BPM board and a governance group at the corporate level are accountable for aligning the BPM framework across the functional domains.

Information System Organization

The IS organization in Gamma follows a hybrid model where a centralized IT group provide core IT services while still allowing a limited group of corporate and local business representatives to partly direct and control the IT function. As presented in Figure 3, the IS organization comprises both business representatives and IT managers and consultants. Sitting between business and IT and playing the role of Business Architects, the Business Design team facilitates communication between the business and IT representatives.

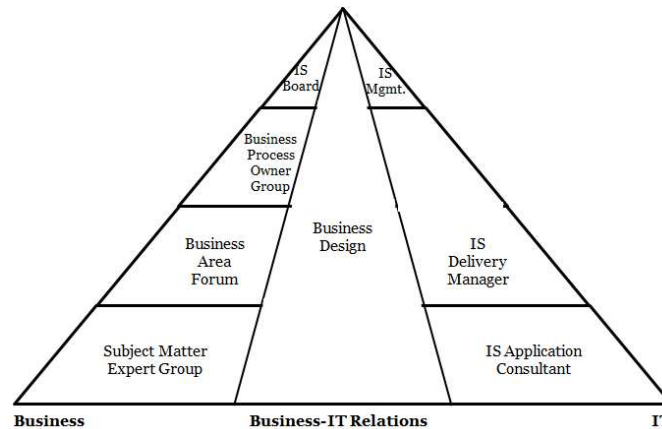


Figure 3: IS organization in Gamma

Each functional domain in Gamma is represented by a Business Process Owner Group, few Business Area Forums, and several Subject Matter Expert Groups in the IS organization. The Business Process Owner Groups, comprising functional vice presidents and/or their directors, are responsible for communicating the functional business strategy to set the direction for defining new IS development projects and enhancements within the available funding. Managing the portfolio of IS projects for their respective function is among other responsibilities of these groups. The members of a Business Process Owner Group join their functional middle managers in few Business Area Forums with a more dedicated focus on the IS strategy for a specific business area. Cooperating more at a tactical level, Subject Matter Expert Groups are aligned with IS Application Consultants to communicate and support business requirements at the global, regional and local levels, guiding application development and configuration. The Business Design team assists the business representatives to develop a strategic and operational direction for technology consistent with their function's strategy and requirements. Managing the technical aspects of IS projects and solution delivery is, obviously, the main responsibility of the Solution Area Delivery. The overall IS strategy and cross-functional aspects of IS projects are handled in IS Board and IS Management.

The interaction between the business and IT parties is facilitated amongst all by strategy mapping, the operating model for business process standardization and integration strategy, and the enterprise architecture. A deeper look at the decision profile of each role and committee shows that the IS organization in Gamma is structured around the five decision domains suggested by Weill and Ross (2004). While IT managers hold the decision-making right for IT architecture and infrastructure, the business representatives play a major role deciding about IS projects prioritization and business application needs, and providing input for IS principles, IS investment, and IT architecture.

Coordination between Process and IS Organizations

As illustrated in Figure 4, the business roles specified within the IS organization are taken by the business representatives that also have a seat in the process organization. Each functional Business Process Owner Group in the IS organization comprises the Process Owners of the functional area. To create a balance in the corporate and local IT requirements, the Business Process Owner Groups in the IS organization may also include senior regional or local managers in addition to the Process Owners. As an example, the

Business Process Owner Group for Operations includes the general managers of the key production plants in addition to the vice presidents for Procurement, Manufacturing, and Supply Chain and Logistics.

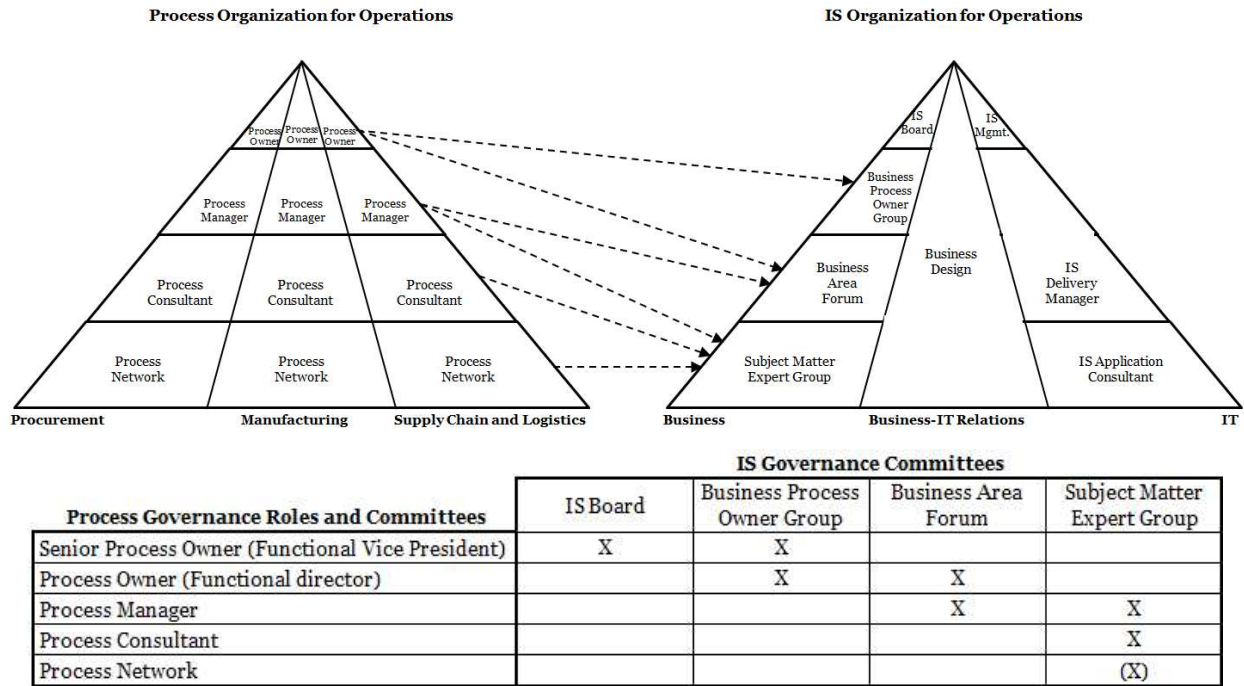


Figure 4: Linkage between Process Organization and IS Organization in Gamma

The functional vice presidents, as the senior Process Owners, and their directors, whom in some cases are also regarded as Process Owners, form the different Business Area Forums. Process Managers may as well be present in Business Area Forums. Process Managers and their Process Consultants, potentially together with their Process Network of local or regional representatives, take part in the various Subject Matter Expert Groups within the IS organization. In other words, if there already exist the required process roles for a process area in the process organization, the Subject Matter Expert Group is not established in the IS organization and instead the IS Consultant for that process area will be associated with the respective Process Manager, Process Consultants, and Process Network in the process organization. Following Tarafdar and Gordon's (2007) suggestion, these IS consultants collect the process requirements, are involved in process design and development from early stages, and provide the process team with an understanding of the systems' support for the processes. A Subject Matter Expert Group in the IS organization is established only if the process organization has not yet appointed any process roles for the process area or if there is a need for a cross-functional group of process experts.

Discussion

Given the responsibility of the business roles in the IS organization taken by the process roles from the process organization, the case evidently illustrates the active involvement of process roles in IS decision making. The representatives from the process organizations with a seat in the IS organization have either the input or decision rights for four out of five IT decision domains, namely IS principles, IS prioritization, IT architecture, and business application needs. According to Mintzberg's (1983) description of liaison devices, these process roles are imposed to the IS organization as integrating managers with formal authority, who align the IS decision making with those in the process organization. Consulting the process roles about IT potential contributions to business strategy and requirements, we also found the IT managers and consultants involved in BPM activities. However, the position of IT representatives within BPM structure carries no formal authority, resembling liaison positions described by Mintzberg (1983). The coordination between the two organizations in the case study indicates the presence of alignment between BPG and ITG frameworks. This is in line with our suggestion for mutual adjustment and horizontal contacts between BPM and IT management functions to ensure business-IT strategic

alignment and applications requirements specification. IT-enabled business value realization is still a relatively immature concept in the studied case; therefore, the responsibility for IT benefits harvesting is not clearly allocated to any role within process or IS organizations. Table 3 presents an overview of the findings.

Shared accountabilities between BPG and ITG	Findings from the Case Study
Business- IT strategic alignment	<ul style="list-style-type: none"> - Business representatives with a role in Process Organization (known as Process Owners) take part in IT decision making to direct the IT strategy based on the business strategy. They also possess the input or decision right for IT principles, IT prioritization, and IT architecture decision making. - IT managers (especially those from Business design) support the business representatives in IT strategic decision making and provide suggestions for how IT may support the strategic initiatives.
Process and IT requirements specification	<ul style="list-style-type: none"> - Business representatives with a role in Process Organization (functioning as Process Managers, Process Consultants, and even Process Networks) take part in IT decision making to communicate the business requirements at the global and local levels, guiding the development and configuration of IT applications. - IT consultants take part in process development from early stages and provide the process team with their input and knowledge about the system support for business processes.
IT-enabled business value realization	<ul style="list-style-type: none"> - Process Owners are responsible for business performance within their process area; however the responsibility for IT-enabled business value realization is not yet clearly allocated to any process or IT roles.

Table 3: Alignment between BPG and ITG frameworks in Gamma

Conclusion

Although a growing body of literature has investigated ITG and BPG separately, little discussion exists about the alignment between the two governance frameworks. While reinforcing the previous studies concerning IT involvement in BPM activities (e.g. Tarafdar and Gordon, 2007) and process roles engagement in IT decision making (e.g. Weill and Ross, 2004), we highlight the need for mutual adjustments between business process and IT management functions to support strategic and operational process and IT decision making. The comparative literature study on the BPG and ITG concepts indicates an overlap between the BPG and ITG decision domains when it comes to the accountability for business-IT strategic alignment, process and IT requirements specification, and IT-enabled business value realization. The case study distinguishes between the two governance arrangements for managing BPM and IT activities. The case study also illustrates the mutual adjustments between business process and IT management functions where the process roles take part in IT decision making to ensure IT alignment with the business strategy, improvement initiatives, and process requirements; and where the IT managers assist the process roles with the BPM responsibilities for IT strategic planning and management of processes along their lifecycle. IT governance structures, indeed, enables liaison contacts between business process and IT management functions.

The informative-chosen case in this study illustrates one instance of the associations between business process and IT management functions and the alignment between BPG and ITG frameworks. The findings from the case study are in line with the results of the comparative literature study. Relying on the conclusions from the literature survey and the “force of example” (Flyvbjerg, 2006), our study suggests the need for a new perspective defining BPG and ITG frameworks, and draws attention to their alignment to coordinate formal and informal IT and process decision-making authority across IT and process communities. We argue that the low level of maturity of BPG and ITG and potentially the lack of

alignment between the two have given rise to alternative governance arrangements for IT benefit management and continuous improvement of IT solutions and embedded processes. Among these alternative governance concepts can be mentioned ERP Center of Excellence (Deloitte Consulting, 2010), and ERP governance (Kavanagh, 2006).

The findings presented here should be considered in the light of some limitations. First coordination between business and IT communities was studied using a single case study. Although we consider this single case study sufficient to point out the neglected associations between BPG and ITG frameworks, the findings can be refined by studies that look at multiple cases. Although in line with our proposition, the case suggests the presence of mutual adjustments between business process and IT management functions, the structuring of the two functions might be context-specific. Two factors that potentially influence the grouping and the type of coordination between business process and IT management functions are the degree of centralization/decentralization of process and IT decision making, and the level of maturity of the business process and IT management arrangements. These will potentially influence the structuring of BPG and ITG frameworks and the nature of their alignment. Consequently, future studies could consider the role of these contextual factors. Second, we highlighted few structural and process mechanisms that enable coordination between BPM and IT decision-making functions. Future studies could provide a more comprehensive overview of the structural, process, and relational mechanisms that facilitate coordination between the two communities.

REFERENCES

- Accenture 2013. "BPM Governance in Practice", [online] URL: <http://www.accenture.com/SiteCollectionDocuments/PDF/Accenture-BPM-Governance-Practice.pdf>
- ASX Corporate Governance Council, 2003. "Principles of good corporate governance and best practice recommendation", [online] URL: <http://www.shareholder.com/visitors/dynamicdoc/document.cfm?documentid=364>
- Bernroider, E. W. 2008. "IT governance for enterprise resource planning supported by the DeLone–McLean model of information systems success", *Information & Management* (45:5), pp. 257-269.
- Burlton, R. 2010. "Delivering business strategy through process management", *Handbook on Business Process Management 2*, Springer Berlin Heidelberg, pp. 5-37.
- COBIT 4.1. 2007. "Control objectives for information and related technology", *IT Governance Institute*
- Davis, R., and Brabänder, E. 2007. *ARIS design platform*, Springer, London
- De Bruin, T. 2009. "Business process management: theory on progression and maturity", *doctoral dissertation*, Queensland University of Technology, Brisbane.
- De Haes, S., and Van Grembergen, W. 2009. "An exploratory study into IT governance implementations and its impact on business/IT alignment", *Information Systems Management* (26:2), pp. 123-137.
- Deloitte Consulting, 2010. "Realizing value through an ERP center of excellence", [online] URL: http://www.deloitte.com/assets/Dcom-Mexico/Local%20Assets/Documents/us_alliances_RealizingvaluethroughaCoE_090910.pdf
- Doebeli, G., Fisher, R., Gapp, R., and Sanzogni, L. 2011. "Using BPM governance to align systems and practice", *Business Process Management Journal* (17:2), pp. 184-202.
- Eisenhardt, K. M. 1989. "Building Theories from Case Study Research", *Academy of Management Review* (14:4), pp. 532-550.
- Flyvbjerg, B. 2006. "Five Misunderstandings about Case-Study Research", *Qualitative Inquiry* (12:2), pp. 219-245
- Galliers, R. D. 1991. "Strategic information systems planning: myths, reality and guidelines for successful implementation", *European Journal of Information Systems* (1:1), pp. 55-64.
- Hammer, M. 2004. "Natural business evolution may spawn a new executive role and changes for the CIO", *Information Week*, March.
- Harmon, P. 2008. "Process Governance", *BPTrends* (6:3), [online] URL: <http://www.sdn.sap.com/irj/scn/go/portal/prtroot/docs/library/uuid/10275f79-7243-2b10-2a99-b576510b3864?QuickLink=index&overridelayout=true&31361851198678>
- Harmon, P. 2010. "The scope and evolution of business process management", *Handbook on Business Process Management 1*, pp. 37-81.
- Henderson, J. C., and Venkatraman, N. 1993. "Strategic alignment: Leveraging information technology for transforming organizations", *IBM Systems Journal* (32:1), pp. 4-16.

- Hongjun, L., and Nan, L. 2011. "Process Improvement Model and Its Application for Manufacturing Industry Based on the BPM-ERP Integrated Framework", *Innovative Computing and Information*, Springer Berlin Heidelberg, pp. 533-542.
- IT Governance Institute 2007. *IT governance status report*.
- Jesus, L., Macieira, A., Karrer, D., and Rosemann, M. 2009. "A Framework for a BPM Center of Excellence", [online] URL: <http://www.bptrends.com/publicationfiles/FOUR%2009-09-ART-Framework%20for%20BPM%20Ctr%20Excellence-Jesus%20et%20al.pdf>
- Kavanagh, S. C. 2006. "Managing ERP after go-live", *Government Finance Review* (22: 48).
- Khusidman, V. 2010. "BPM Governance Framework", *BPTrends*, [online] URL: <http://www.bptrends.com/publicationfiles/ONE%202010-ART-BPM%20Governance%20Framework-VKhusidman-v5.pdf>
- Kirchmer, M. 2010. "Management of process excellence", *Handbook on Business Process Management 2*, Springer Berlin Heidelberg, pp. 39-56.
- Kirchmer, M. 2011. "Business Process Governance for MPE", *High Performance Through Process Excellence*, Springer Berlin Heidelberg, pp. 69-85.
- Markus, M. L., and Jacobson, D. D. 2010. "Business process governance", *Handbook on Business Process Management 2*, Springer Berlin Heidelberg, pp. 201-222.
- Mintzberg, H. 1983. *Structure in Fives: Designing Effective Organizations*, Prentice Hall Inc.
- Niehaves, B., Plattfaut, R., and Becker, J. 2012. "Business process governance: a comparative study of Germany and Japan", *Business Process Management Journal* (18:2), pp. 347-371.
- Peppard, J., Ward, J., and Daniel, E. 2007. "Managing the realization of business benefits from IT investments", *MIS Quarterly Executive* (6:1), pp. 1-11.
- Peterson, R. 2004. "Crafting information technology governance", *Information Systems Management* (21:4), pp. 7-22.
- Rau, K. G. 2004. "Effective governance of IT: Design objectives, roles, and relationships", *Information Systems Management* (21:4), pp. 35-42.
- Rosemann, M., and vom Brocke, J. 2010. "The six core elements of business process management" *Handbook on Business Process Management 1*, Springer Berlin Heidelberg, pp. 107-122.
- Santana, A. F. L., Alves, C. F., Santos, H. R. M., and Felix, A. D. L. C. 2011. "BPM Governance: An Exploratory Study in Public Organizations", *Enterprise, Business-Process and Information Systems Modeling*, Springer Berlin Heidelberg, pp. 46-60.
- Scheer, A. W., and Brabänder, E. 2010. "The process of business process management", *Handbook on Business Process Management 2*, Springer Berlin Heidelberg, pp. 239-265.
- Spanyi, A. 2010. "Business process management governance", *Handbook on Business Process Management 2*, Springer Berlin Heidelberg, pp. 223-238.
- Spremić, M. A. R. I. O. 2009. "IT governance mechanisms in managing IT business value", *WSEAS Transactions on Information Science and Applications* (6:6), pp. 906-915.
- Tarafdar, M., and Gordon, S. R. 2007. "Understanding the influence of information systems competencies on process innovation: A resource-based view", *The Journal of Strategic Information Systems* (16:4), pp. 353-392.
- The Open Group, *TOGAF 9.1*, [online] URL: <http://pubs.opengroup.org/architecture/togaf9-doc/arch/>
- Tiwana, A., and Konsynski, B. 2010. "Complementarities Between Organizational IT Architecture and Governance Structure", *Information Systems Research* (21: 2), pp. 288-304.
- Tracy, S. J. 2010. "Qualitative quality: Eight "big-tent" criteria for excellent qualitative research", *Qualitative Inquiry* (16:10), pp. 837-851
- Tučková, Z., and Tuček, D. 2011. "Necessity of IT and SW support for business process management", *International Journal of Mathematics and Computers in Simulation* (5:1), pp. 45-52.
- Van Grembergen, W. 2002. "Introduction to the minitrack IT Governance and its Mechanisms", in *Proceedings of the 35th Hawaii International Conference on System Sciences* (40:10), p. 5023.
- Vom Brocke, J., and Rosemann, M. eds. 2010. *Handbook on Business Process Management 1, 2*, Springer-Verlag Berlin Heidelberg.
- Weil, P., and Ross, J. W. 2004. *IT-Governance: How Top Performers Manage IT Decision Rights for Superior Results*, Harvard Business Press.
- Wilkin, C. L., and Chenhall, R. H. 2010. "A review of IT governance: A taxonomy to inform accounting information systems", *Journal of Information Systems* (24:2), pp. 107-146.
- Yin, R. K. 2009. *Case study research: Design and methods* (5), Sage Publications.